II. CLAIM AMENDMENTS

1. (Currently amended) A method in a direct conversion receiver for processing a received signal, comprising:

mixing an oscillator frequency signal with said received signal for generating baseband frequency signals, wherein said received signal is modulated and centered at a carrier frequency, said received signal has a spectral characteristic of a plurality of lobes separated by notches, the notches being at null points located on a frequency axis at multiples of a chip rate from the carrier frequency, and the modulation extends a sideband above and below the carrier frequency;

filtering out generated direct current (DC) components of said baseband signals centered at the zero frequency;

setting said oscillator frequency signal equal to or about the carrier frequency plus an offset frequency, said offset frequency being equal to or about the difference between the carrier frequency and a null frequency, said null frequency centered at a notch of said sideband; and

centering said notch at the zero frequency of said baseband signals through mixing.

2. (Currently amended) A direct conversion receiver for processing a signal, comprising:

at least one circuit element for receiving said signal, said signal being centered at a carrier frequency and has modulation extending a sideband above and below said carrier frequency, said signal having a spectral characteristic of a plurality of lobes separated by notches, the notches being at null points located on a frequency axis at multiples of a chip rate from the carrier frequency, the at least one circuit element having a first signal output and a second signal output;

an oscillator for providing a frequency and having a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first output;

a first mixer coupled to said first signal output and first frequency output for generating a baseband frequency in-phase signal;

a second mixer coupled to said second signal output and second frequency output for generating a baseband frequency quadrature phase signal;

a first filter for the suppression of said in-phase signal centered at the zero frequency; and

a second filter for the suppression of said quadrature signal centered at the zero frequency;

wherein the receiver is configured to provide an oscillator frequency that is equal to or about the carrier frequency plus an offset frequency, said offset frequency being equal to or about the difference between the carrier frequency and a null frequency, said null frequency centered at a notch of said sideband, for centering said notch at the zero frequency of said baseband signals through mixing.

3. (Previously Presented) A direct conversion receiver according to claim 2, further comprising a third filter for the suppression of said in-phase signal being greater than a set corner frequency; and a fourth filter for the suppression of said quadrature signal being greater than a set corner frequency.

4. (Previously Presented) A direct conversion receiver according to claim 2, wherein said first filter comprises a first AC coupling element for producing a notch at the zero frequency of said in-phase signal; and said second filter comprises a second AC coupling element for producing a notch at the zero frequency of said quadrature signal.

5. (Previously Presented) A direct conversion receiver according to claim 2, wherein said first filter and said second filter each comprise a high pass filter, the first filter coupled to the output of the first mixer and the second filter coupled to the output of the second mixer.

6. (Previously Presented) A direct conversion receiver according to claim 2, further comprising a processor for demodulation and processing said in-phase and quadrature signals and for controlling said oscillator frequency.

7. (Currently amended) A GPS direct conversion receiver for processing a signal, comprising:

a device for splitting said signal, said device having a first signal output and a second signal output, wherein said signal is a phase modulated radio signal centered at a carrier frequency for receiving digital information, the phase modulation extending a sideband above and below the carrier frequency, and wherein said signal has a spectral characteristic of a plurality of lobes separated by notches, the notches being at null points located on a frequency axis at multiples of a chip rate from the carrier frequency;

an oscillator for providing a frequency and having a first frequency output and a second frequency output, said second frequency output having a 90° phase shift compared with said first output;

a first mixer coupled to said first signal output and first frequency output for generating a baseband frequency in-phase signal;

a second mixer coupled to said second signal output and second frequency output for generating a baseband frequency quadrature phase signal;

a first filter for the suppression of said in-phase signal centered at the zero frequency; and

a second filter for the suppression of said quadrature signal centered at the zero frequency;

wherein the receiver is configured to provide an oscillator frequency that is equal to or about the carrier frequency plus an offset frequency, said offset frequency being equal to or about a chip rate or a multiple of it for centering said oscillator frequency at a notch of said sideband, and for centering said notch at the zero frequency of said baseband signal through mixing.

8. (Previously Presented) A GPS direct conversion receiver according to claim 7, wherein said first filter comprises a first high pass filter for producing a notch at the zero frequency of said in-phase signal; and said second filter comprises a second high pass filter for producing a notch at the zero frequency of said quadrature signal.

9. (Currently amended) A method in a direct conversion receiver for processing a signal, comprising:

splitting said signal into a first signal output and a second signal output, said signal being modulated and centered at a carrier frequency, the modulation extending a sideband above and below the carrier frequency, and wherein said signal has a spectral characteristic of a plurality of lobes separated by notches, the notches being at null points located on a frequency axis at multiples of a chip rate from the carrier frequency;

tuning an oscillator for generating a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first frequency output;

mixing said first signal output and first frequency output for generating a baseband frequency in-phase signal;

mixing said second signal output and second frequency output for generating a baseband frequency quadrature phase signal;

filtering out an in-phase signal centered at the zero frequency;

filtering out a quadrature signal centered at the zero frequency;

setting said oscillator frequency equal to or about the carrier frequency plus an offset frequency, said offset frequency being equal to or about the difference between the carrier frequency and a null frequency, said null frequency being centered at a notch of said sideband; and

centering said notch at the zero frequency of said baseband signals through mixing.

10. (Previously Presented) A method according to claim 9, wherein the method further comprises:

high pass filtering said in-phase signal for producing a notch at the zero frequency of said in-phase signal; and

high pass filtering said quadrature signal for producing a notch at the zero frequency of said quadrature signal.

11. (Previously Presented) A method in a direct conversion receiver for processing a received signal, comprising:

mixing an oscillator frequency signal with said received signal for generating baseband frequency signals, wherein said received signal is modulated and centered at a carrier frequency, wherein a frequency spectrum of the received signal has a main lobe and side lobes with successive ones of the lobes being separated by spectral null points, the spectral null points being located at multiples of a chip rate of the received signal, the modulation extending a sideband above and below the carrier frequency;

filtering out generated direct current (DC) components of said baseband signals centered at the zero frequency;

setting said oscillator frequency signal equal to or about the carrier frequency plus an offset frequency, said offset frequency being equal to or about the difference between the carrier frequency and a null frequency of said received signal spectrum, said null frequency being centered at a notch of said sideband; and

centering said notch at the zero frequency of said baseband signals through mixing.

12. (Previously Presented) A direct conversion receiver for processing a received signal, the receiver comprising:

a splitter for splitting said signal, said splitter having a first signal output and a second signal output, the received signal being a modulated signal centered at a carrier frequency, the modulation extending a sideband above and below said carrier frequency, wherein a frequency spectrum of the received signal has a main lobe and side lobes with successive ones of the lobes being separated by spectral null points, the spectral null points being located at multiples of a chip rate of the received signal;

an oscillator for providing a frequency and having a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first frequency output;

a first mixer coupled to said first signal output and first frequency output for generating a baseband frequency in-phase signal;

a second mixer coupled to said second signal output and second frequency output for generating a baseband frequency quadrature phase signal;

a first filter for the suppression of said in-phase signal centered at the zero frequency; and

a second filter for the suppression of said quadrature signal centered at the zero frequency;

wherein the receiver is configured for providing an oscillator frequency that is equal to or about the carrier frequency plus an offset frequency, said offset frequency being equal to or about a difference between the carrier frequency and a null frequency of said received signal spectrum, said null frequency being centered at a notch of said sideband, for centering said notch at the zero frequency of said baseband signals through mixing.

13. (Previously Presented) A receiver for processing a signal, the receiver comprising:

a divider for splitting said signal, said divider having a first signal output and a second signal output, wherein the signal is a modulated signal centered at a carrier frequency, the modulation extending a sideband above and below said carrier frequency;

an oscillator for providing a frequency and having a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first output;

a first mixer coupled to said first signal output and said first frequency output for generating a baseband frequency in-phase signal;

a second mixer coupled to said second signal output and second frequency output for generating a baseband frequency quadrature phase signal;

a first filter for the suppression of said in-phase signal centered at the zero frequency;

a second filter for the suppression of said quadrature signal centered at the zero frequency;

wherein the receiver is configured for providing an oscillator frequency that is equal to or about the carrier frequency plus an offset frequency, said offset frequency

being equal to or about the difference between the carrier frequency and a null frequency, said null frequency being centered at a notch of said sideband, for centering said notch at the zero frequency of said baseband signals through mixing.

14. (Previously Presented) A receiver according to claim 13, wherein, for channel selection, said receiver further comprises a third filter for the suppression of said in-phase signal being greater than a set corner frequency; and a fourth filter for the suppression of said quadrature signal being greater than a set corner frequency.

15. (Previously Presented) A receiver according to claim 13, wherein said first filter comprises a first AC coupling for producing a notch at the zero frequency of said in-phase signal; and said second filter comprises a second AC coupling for producing a notch at the zero frequency of said quadrature signal.

16. (Previously Presented) A receiver according to claim 13, wherein said first filter and the second filter each comprise a high pass filter, the first filter coupled to the output of the first mixer and the second filter coupled to the output of the second mixer.

17. (Previously Presented) A receiver according to claim 13, wherein said receiver further comprises a processor for demodulation and processing said in-phase and quadrature signals and for controlling said oscillator frequency.

18. (Previously Presented) A receiver for processing a received signal, the receiver comprising:

a divider for splitting said received signal, said received signal being a modulated signal that is centered at a carrier frequency, the modulation extending a sideband above and below said carrier frequency, wherein a frequency spectrum of the received signal has a main lobe and side lobes with successive ones of the lobes being separated by spectral null points, the spectral null points being located at multiples of a chip rate of the received signal, said divider having a first signal output and a second signal output;

an oscillator for providing a frequency and having a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first frequency output;

a first mixer coupled to said first signal output and said first frequency output for generating a baseband frequency in-phase signal;

a second mixer coupled to said second signal output and said second frequency output for generating a baseband frequency quadrature phase signal;

a first filter for the suppression of said in-phase signal centered at the zero frequency; and

a second filter for the suppression of said quadrature signal centered at the zero frequency;

wherein the receiver is configured for providing an oscillator frequency that is equal to or about the carrier frequency plus an offset frequency, said offset frequency being equal to or about a difference between the carrier frequency and a null frequency of said received signal spectrum, said null frequency centered at a notch of said sideband, for centering said notch at the zero frequency of said baseband signals through mixing.

19. (Currently amended) A direct conversion receiver comprising:

means for mixing an oscillator frequency signal with a received signal that is modulated and centered at a carrier frequency, the modulation extending a sideband above and below the carrier frequency, for generating baseband frequency signals, and wherein said received signal has a spectral characteristic of a plurality of lobes separated by notches, the notches being at null points located on a frequency axis at multiples of a chip rate from the carrier frequency;

means for filtering generated direct current components of the generated baseband frequency signals centered at a zero frequency;

means for adjusting the oscillator frequency to a frequency that is substantially equal to the carrier frequency and an offset frequency, the offset frequency being substantially equal to a difference between the carrier frequency and a null frequency that is centered at a notch of the sideband; and

means for centering the notch at the zero frequency of the baseband signals.

20. (Previously Presented) The receiver of claim 19 further comprising:

means for filtering a portion of the in-phase signal that is greater than a set corner frequency; and

means for filtering a portion of the quadrature signal that is greater than a set corner frequency.

21. (Previously Presented) The receiver of claim 19 further comprising:

means for producing a notch at the zero frequency of the in-phase signal; and

means for producing a notch at the zero frequency of the quadrature signal.